

Atty. Docket No.: Q57834
PATENT APPLICATION

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 09/497,515

REMARKS

Claims 1, 3 and 5-10 have been examined on their merits. Claims 11-20 remain withdrawn from consideration as being drawn to a non-elected invention.

Applicant herein cancels claim 5 without prejudice and/or disclaimer.

Applicant herein amends claims 1 and 3 with the recitations of cancelled claim 5, and Applicant respectfully requests entry and consideration of the amendments to claims 1 and 3.

Claims 1, 3 and 6-20 are all the claims presently pending in the application.

1. Claims 1, 3, 6 and 10 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Fukuoka *et al.* (U.S. Patent No. 5,723,173). Applicant traverses the rejection of claims 1, 3, 6 and 10 at least for the reasons discussed below.

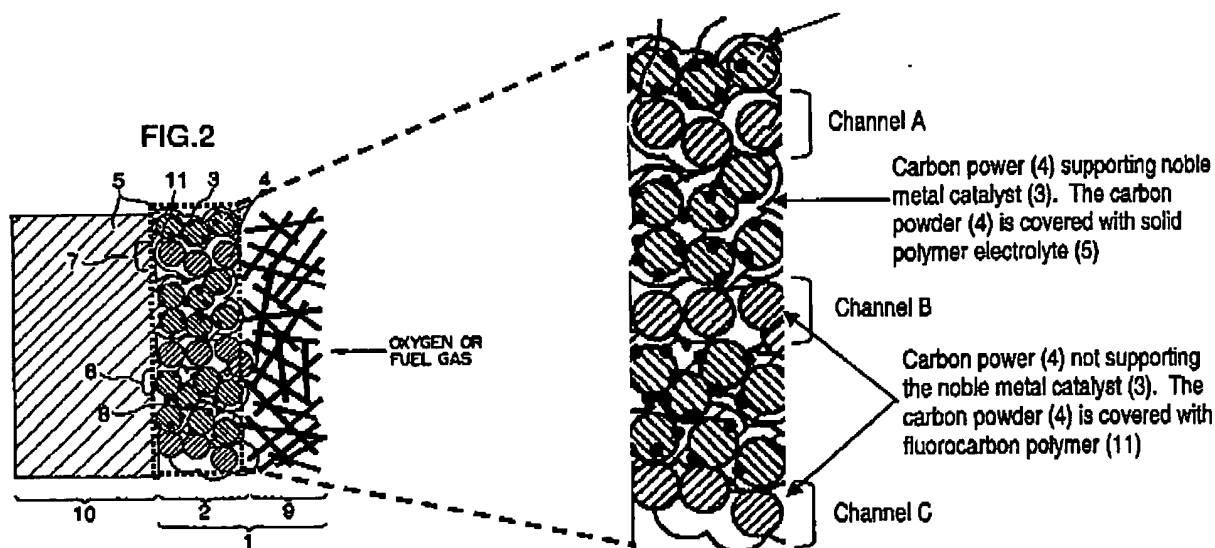
To support a conclusion that a claimed invention lacks novelty under 35 U.S.C. § 102, a single source must teach all of the elements of a claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). A single source must disclose all of the claimed elements arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). A proper anticipation rejection requires that every element of the claim be found "in a single prior art reference." *See In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950 (Fed. Cir. 1999). Rejections under 35 U.S.C. § 102 are

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proper only when the claimed subject matter is identically disclosed or described in the prior art. Thus, the cited reference must clearly and unequivocally disclose every element and limitation of the claimed invention.

With respect to Figure 2, Fukuoka *et al.* still fails to teach or suggest at least the porous polymer provided in the pores of a catalyst layer and which does not have a substantial ion-exchange function, as recited in independent claims 1 and 3. In Figure 2 reproduced below, the gas channel (7) shown next to the solid polymer electrolyte membrane (10) corresponds to what the Patent Office identifies as a pore, and the enlarged portion of Figure 2 indicates other portions of the catalyst layer that the Patent Office considers to be gas channels (Channels A, B and C).



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Independent claims 1 and 3 both recite that the “catalyst layer contains a solid polymer electrolyte and catalyst particles.” In Fukuoka *et al.*, the solid polymer electrolyte (5) and the catalyst particles (3) shown in Figure 2 correspond to this recitation. The material in channels A, B and C consists of a carbon powder (4) treated for water repellence added to a fluorocarbon polymer (11). *See* col. 4, lines 31-41 and lines 66-62 of Fukuoka *et al.* Fukuoka *et al.* refers to channels A, B and C as gas channels (7). Proton channels (8), each of which consists of carbon powder (4), metal catalyst (3) and solid polymer electrolyte (5), border the material in channels A, B and C.

Furthermore, in rejecting the claims based on Figure 2 of Fukuoka *et al.*, the Patent Office has acknowledged that solid polymer electrolyte (5) has an ion-exchange function. *See, e.g.*, page 4 of the October 5, 2004 Office Action. It is quite clear from regarding Figure 2 of Fukuoka *et al.* that a solid polymer electrolyte (5) (which the Patent Office has acknowledged has an ion-exchange function) is not provided in the pores of the catalyst layer and/or on the surface of the catalyst layer. In contrast, the independent claims 1 and 3 both recite that a porous polymer, which is distinct from the solid polymer electrolyte, is provided in the pores of a catalyst layer and/or on the surface of the catalyst layer, and does not have a substantial ion-exchange function. To the extent that channels A, B or C are considered to be a “pore,” the material in the “pore” consists of a carbon powder treated for water repellence with a fluorocarbon polymer (11). Applicants submit that fluorocarbon polymer (11) mixed with carbon powder treated for water repellence fails to meet the recitation of a porous polymer, which “does not substantially contain anything except its polymer material”, being provided in a

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portion of the pores of a catalyst layer, as recited in independent claims 1 and 3. Figure 2 of Fukuoka *et al.* is clear that other materials are included with the fluorocarbon polymer in the pores of the catalyst layer. Therefore, to the extent that the Patent Office alleges that the carbon powder (4)/fluorocarbon polymer (11) mixture in channels A, B and C is identical to the claimed porous polymer, such is in error.

Thus, as evidenced by Figure 2, Applicants submit that Fukuoka *et al.* fail to teach or suggest at least a porous polymer, that does not substantially contain anything except its polymer material and lacking an ion-exchange function, provided in of pores of a catalyst layer or both in the pores and on a surface of the catalyst layer, as recited in independent claim 1. Applicants further submit that Fukuoka *et al.* fail to teach or suggest at least a porous polymer, that does not substantially contain anything except its polymer material and lacking an ion-exchange function, provided in of pores of a catalyst layer or an inside portion of a substrate, as recited in independent claim 3.

2. Claim 5 stands rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Fukuoka *et al.* The § 102(b) rejection of claim 5 is now moot due to its cancellation, and Applicant respectfully requests withdrawal of the rejection.

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3. Claim 5 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fukuoka *et al.* The § 103(a) rejection of claim 5 is now moot due to its cancellation, and Applicant respectfully requests withdrawal of the rejection.

4. Claims 7-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fukuoka *et al.* Applicant traverses the rejection of claim 7-9 at least for the reasons discussed below.

Claims 7-9 depend from independent claims 1 or claim 3. As discussed above, Fukuoka *et al.* fails to teach or suggest several features of the claimed invention recited in claims 1 and 3. Therefore, Applicant submits that claims 7-9 are allowable at least by virtue of their dependency from claims 1 and 3. The Patent Office is respectfully requested to withdraw the § 103(a) rejection.

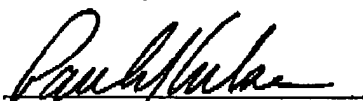
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In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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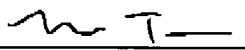
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CUSTOMER NUMBER

Date: February 7, 2005

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this AMENDMENT UNDER 37 C.F.R. § 1.114(c) is being facsimile transmitted to the U.S. Patent and Trademark Office this 7th day of February, 2005.


Mariann Tam